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J. BAYLOR ROBERTS

MEN PACK FRESHLY CHURNED BUTTER INTO 60-POUND TUBS AT SIOUX CITY, IOWA

Five cylindrical churns behind them produce 1,500 pounds of butter in less than an hour. Just as cities have milksheds which funnel milk daily to homes, stores, and restaurants, this creamery has its "butter shed"—400 buying stations within a radius of 125 miles.

Bulletin No. 1, January 7, 1952

Baja California Attains Mexican Statehood

THE North District of Mexico's Baja (Lower) California has enjoyed a decade of phenomenal population growth and now has attained promotion to statehood. Baja California is the narrow, arid, mountainous peninsula that hangs like an icicle from the southern border of California, U. S. A.

Mexico now has 29 states and two territories. The latter are Baja California, South District; and Quintana Roo, on the Yucatan Peninsula. Baja California Norte, whose capital is Mexicali in the rich, below-sea-level Imperial Valley, has become the 11th state in area and the 26th in population.

Population Triples in 10 Years

Under the Mexican constitution, elevation of a territory to statehood must be approved by the federal government at Mexico City. The bill to admit northern Baja California was sent to the national legislature by President Miguel Alemán.

The territory of the new state covers an area a little larger than West Virginia. Its population in 1950 was 225,000, nearly triple that shown by the 1940 census, far outstripping gains made by any other area of Mexico.

The closest comparable increase was that of the Distrito Federal around Mexico City, the seat of government similar to the District of Columbia. There the decade's population increase was 67 per cent, compared to northern Baja California's 184 per cent.

The brand new state extends southward from the United States border to the 28th parallel, which cuts Baja California's 810-mile length approximately in half. It contains the border cities of Tijuana, Agua Caliente, and Mexicali, as well as the resort center of Ensenada on the Pacific Coast.

New Water Sources

Much of the agriculture of Baja California is limited to irrigated regions in the North District, not only in the Imperial Valley, but also in the area of San Quintin Bay on the Pacific coast, some 190 miles by road from the border.

The San Quintin development has been rapid since discovery and development of underground water sources a few years ago. San Quintin also marks the southern end of regular maintenance on the road that twists south from the United States border along the entire length of the peninsula to its southern tip at Cape San Lucas.

Near San Quintin are the quarries producing onyx, a translucent variety of quartz used primarily for such small objects as ash trays, inkstands, and paperweights. One immense piece, however, was carved into a bathtub which, trimmed with gold, sold for $10,000. The Peace Memorial at St. Paul, Minnesota, is carved from Mexican onyx.

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ALFRED M. BAILEY AND ROBERT J. NIEDRACH

THE ONLY INHABITANTS OF THE ROCKY SAN BENITO ISLANDS ARE A LARGE HERD OF CALIFORNIA SEA LIONS

The amphibious giants use the shelving beach as a hauling-out place. Huge bulls lord it over their family of several mates and pups. Sea lions, using all four flippers, get around quite nimbly on land. These seemed unafraid, and allowed photographers to come near enough for close-ups. The San Benito Islands lie in the Pacific about halfway along the dry peninsula of Baja California (Bulletin No. 1).

Bulletin No. 2, January 7, 1952

Bordeaux Region Again Greets U.S. Troops

UNITED STATES airmen and troops moving into the Bordeaux region of southwestern France with expanded arms aid find themselves in an area familiar to many of their fathers.

The great French port, during World War I, was one of the chief debarkation centers of the American Expeditionary Forces. In World War II, the German invaders effectively blocked the harbor so it was of less importance to American forces. It was not liberated until August, 1944.

Largest Liners Stop Short of City

Fourth in size (nearly 260,000 inhabitants) and third-most-important port in France, the city lies in the Aquitaine basin, on the Garonne River about 60 water miles from the Atlantic. Twelve miles downstream from Bordeaux the Garonne joins the Dordogne to form the Gironde River. The Gironde is actually an estuary—a broad arm of the Atlantic ocean.

The largest liners of today cannot go as far upstream as Bordeaux, but the city's facilities for transshipment of freight maintain its importance as a port, ranking after only Marseille and Le Havre.

One of France's most ancient cities, Bordeaux, as Burdigala, was a university city in Roman times. Out of the path of invaders and far enough from the sea to be safe from raiders, the city became a cultural center as well as a great commercial port. Many of its public buildings are five centuries old. Two city gateways, the cathedral, and numerous churches and houses—still in use—were old when Columbus sailed.

Three times within 70 years the French government has fled to Bordeaux—when the Germans approached in 1870, in 1914, and in 1940.

The Bordeaux area is one of the great wine regions in the world's largest wine-producing nation. It also is noted for the excellence of its food. Produced abundantly in the district, food is prepared with an artistry in keeping with exceptionally high standards.

Monuments Honor American Troops and Lafayette

Aquitaine-basin food delicacies include truffles and *foie gras*. Truffles are fungi that grow on oak roots, underground. They are served with meats much as are mushrooms. Foie gras is the liver of fattened, forcibly fed geese. It is usually sold in paste form—*pâté de foie gras*.

At Pointe de Grave at the mouth of the Gironde stands a memorial to the first United States troops to land in France in 1917. Another monument commemorates the departure of Lafayette to North America in 1777 to aid the colonists.

France's Atlantic seaboard and inland villages in the area are popular vacation haunts of the French. Less than 120 miles southwest of Bordeaux lie the famous resort towns of the Basque coast, Biarritz and St. Jean de Luz. The mild climate and wide sandy beaches, the excellent hotels and restaurants, attract visitors the year around. English is widely spoken.

Les Landes, a wide sandy belt of pine forest, extends along the coast

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Baja California is rich in minerals, and some workings are hundreds of years old. Gold is still taken from small mines, and at least one big copper deposit has been extensively worked. However, lack of fresh water and the generally inhospitable nature of the land (illustration, below) caused failure of many ambitious mining projects.

The Gulf of California on the east and the Pacific on the west and south are among the finest fishing grounds in the world. Marlin and swordfish are taken regularly, and commercial fishermen harvest tuna, mackerel, yellowtail, and other species. The shark has become so valuable for its vitamin-packed liver that many of Baja California's pearl divers have put away their diving gear to become shark hunters. Sea lions are plentiful on offshore islands (illustration, inside cover).

NOTE: Baja California is shown on the National Geographic Society's map of Countries of the Caribbean. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For additional information, see "Sea Birds of Isla Raza," in the *National Geographic Magazine* for February, 1951; "Baja California Wakes Up," August, 1942; and "Cruise of the *Kinkajou*," September, 1941. *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00, 1930–1945; and $2.00, 1912–1929. Earlier issues, when available, varied prices.)*

GEORGE LINDSAY

A SNAKELIKE PLANT IS BAJA CALIFORNIA'S CREEPING DEVIL CACTUS

It holds its head up from the sand of Mexico's dry peninsula that extends 800 miles south of the State of California. It dies at the tail and grows at the head, thus actually moving forward as the seasons roll by.

"Everyday Life in Ancient Times"

A new book compiled by the National Geographic Society brings to life the peoples of the ancient lands where Western civilization originated—Mesopotamia, Egypt, Greece, and Rome. Illustrated with 120 full-color paintings by H. M. Herget and written by four noted authorities, the 356-page volume is available to schools at $5.00 a copy postpaid in the United States and its possessions, and $5.25 abroad.

Bulletin No. 3, January 7, 1952

January 13 Proclaimed Stephen Foster Day

NEXT Sunday, January 13, will be the first Stephen Foster Memorial Day. President Truman has set aside that day, the anniversary of the death of the great American composer, to honor the man who gave the nation many of its immortal folk songs.

The writer of "My Old Kentucky Home" and "Way Down Upon the Swanee River" lived a short life marked by many contrasts. Stephen Collins Foster won fame for his songs of the South, yet he was a Northerner. He made Florida's Suwanee River famous, though he misspelled it and never saw it. His melodies speak with tenderness of family and home, yet he died homeless and forsaken in a New York hospital charity ward in 1864.

First Song Composed at 14

July 4, 1826, was an appropriate birthday for the American song writer. He was born and raised in Pittsburgh, Pennsylvania, where his father was a prosperous merchant. As a youngster he loved nothing better than to visit the bustling Pittsburgh waterfront. Toiling slaves and wealthy Southern travelers gave him his first picture of Dixie life. Occasionally the boy persuaded his nurse to take him to a Negro church where he heard the haunting type of music he was later to immortalize.

Young Foster mastered his three R's at academies in Pennsylvania. At one, Athens Academy, he composed his first song when only 14 years old. It was "The Tioga Waltz" for flutes. Formal education proved irksome. Young Foster preferred to ramble in the woods and make up tunes, or to put on minstrel shows with other boys.

Musical careers were then unfashionable and Foster's practical father forbade him to study the art. Stephen taught himself the rudiments. Occasionally he went for help to a musician friend, Henry Kleber.

In 1846 Foster's father sent his son to Cincinnati to learn bookkeeping from an elder brother. Stephen paid little attention to his ledgers. He wandered along the waterfront which reminded him of home. Southern planters, rivermen, and Negro roustabouts again stirred him.

Teamed with Christy, the Minstrel Showman

Gold seekers were on their way to California. Quickly Foster translated this new movement into song. "Oh! Susanna" became the theme for the "Forty-niners" as they trekked West. Foster became famous.

In Cincinnati the young composer met the minstrel-showman, Edwin P. Christy. They made a perfect team; Christy produced shows and Foster wrote the music. Foster said, "I shall establish my name as the best Ethiopian (Negro minstrel) writer." His hits for Christy included "Old Folks at Home" (also known as "Way Down Upon the Swanee River") and "Massa's in de Cold Ground."

In 1852 the composer journeyed to New Orleans to see the South of his songs. On his way he stopped at Bardstown in central Kentucky to visit a cousin, Colonel Rowan, at Federal Hill. Here he composed his deathless ballad, "My Old Kentucky Home," now Kentucky's state song.

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from the Gironde estuary south almost to Biarritz. The Landes resemble the pine woods of the southern United States, even to the extent that nearly all large trees are tapped for turpentine. Dwellings are often rough board cabins instead of the stone houses more typical of France.

A century and a half ago, the Landes was a desolate region of shifting sand dunes, swamps, and shallow lakes. Atlantic winds pushed the dunes farther and farther east, sometimes forcing whole villages to move. Grass and pine trees were planted, much as grass and timber windbreaks were placed in the United States to prevent wind erosion of the dust bowl. Now the Landes belt provides France's greatest forest reserve.

NOTE: France is shown on the Society's maps of Western Europe, and Europe and the Near East.

For further information on the Bordeaux region, see "Across the Midi in a Canoe," in the *National Geographic Magazine* for August, 1927.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, December 18, 1950, "New Truck Express to Start at Bordeaux"; and "Bordeaux Still Thrives on Wine Industry," February 7, 1949.

MELVILLE CHATER

BORDEAUX'S BUSY WHARVES EDGE BOTH SIDES OF THE GARONNE RIVER

Following the Garonne's crescent curve, the wharves of Bordeaux form a pattern which gave the city its old name, Port of the Moon. From the beautifully landscaped and efficiently managed docks, France's ships, outbound with the wines and fruits of the region, pass incoming ships of all nations bringing products from the colonies, machinery, grain, timber from Scandinavia, and coal from England.

Bulletin No. 4, January 7, 1952

Milksheds Pour Dairy Yield into Cities

ENOUGH milk was produced in the United States in 1951 to fill a river 3,000 miles long, 40 feet wide, and three feet deep. The river has nearly 25,000,000 sources—the number of cows milked during the year on United States farms. It flows at an annual rate of 56 billion quarts, a quart a day for every man, woman, and child in the country.

From farm to housewife's refrigerator, this tremendous flood of milk and milk products (illustration, cover) moves in well-charted channels. The United States milk map resembles a series of spider webs spun around each city and town in the nation.

Milk Moves by Night

Each tangled web covers a region which dairymen call a milkshed, much as geographers term a river's drainage area a watershed. Around the largest cities of America are the great milksheds of the world.

Long before cities are awake each day, milk is moving in the supply lines which form the milksheds. From the slow beat of milking machines to the clink of paper-capped bottles on the nation's doorsteps, one of the world's fastest distribution systems is in operation.

Rigid health and legal standards determine the patterns of milk supply. Federal marketing orders, state milk legislation, and municipal health departments control the manner in which the "most-nearly perfect food" is produced and sold. These factors help define the size and shape of milksheds.

Chicago, crossroad of the nation's railroads and of much of its food, receives its milk from a dairying area which extends like a giant buttonhook down the length of Wisconsin to curl around the tip of Lake Michigan. Milk comes to the Chicago market from such rural gathering depots as a cooperative creamery in Clear Lake, Wisconsin, 375 miles away.

California Shed Cut off from Others

New York City is fed milk by all New York State, parts of six other states, and sometimes even by two Canadian provinces. From the green lowlands around Lake Champlain, milk pours into New York and into Boston. From eastern Pennsylvania, milk goes to New York and Philadelphia. The latter also draws milk from parts of Maryland, Delaware, and New Jersey. Thus are milksheds laced together in the East.

California's milkshed (illustration, next page) is unusual in that it is completely cut off from any other. Los Angeles and San Francisco are served by dairying areas in the irrigated valleys of the Pacific coast. These are isolated on the west by the ocean, on the south by Mexico, and on the east by the high Sierras and the deserts of Nevada and Arizona, and on the north by mountains closing in the Sacramento Valley at the foot of Shasta Dam.

Los Angeles has dairy farms worthy of the name "milk factories." Instead of giving cows wide pastures in which to graze, herds are brought closer to the consumer, sometimes even within the city limits. There

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At Pittsburgh, Cincinnati, and Bardstown, the genius of Stephen Collins Foster flowered. The remainder of his life produced only mediocre compositions. One exception was "Old Black Joe," written in New York City in 1860. At his death he left behind only a wallet containing 38 cents and a scrap of paper bearing the words, "Dear Friends and Gentle Hearts." He may have intended this to be the theme of a new ballad.

Today the songs of Stephen Foster are sung the world over. Americans pay homage to him at several shrines. Kentucky purchased Federal Hill from the Rowan family in 1921 and made the plantation a state park. Over 20 years ago Josiah K. Lilly, the drug manufacturer, began to collect Foster material. This he first housed at Foster Hall, a small stone structure in Indianapolis. With the erection of a much larger memorial by the citizens of Pittsburgh in 1937, Lilly transferred most of his valuable collection there (illustration, below). This large memorial now contains some 200 first drafts of Foster's published songs and unpublished verses.

Only three months ago the State of Florida erected a memorial and museum to Foster on the banks of its Suwanee River to celebrate the 100th anniversary of "Old Folks at Home."

J. BAYLOR ROBERTS

UNIVERSITY OF PITTSBURGH STUDENTS GATHER TO SING STEPHEN FOSTER'S EVER-YOUNG MELODIES
They meet in the Stephen Collins Foster Memorial, which houses on their campus the outstanding collection of source material of the famous folk-song writer. The piano was the composer's own, and the sheet music is original. Music groups constantly use the adjoining auditorium.

Bulletin No. 5, January 7, 1952

Engineering and Construction: 1951 Summary

ENGINEERING and construction throughout the world in 1951 were keynoted by increased production of the basic sinew of man-made works—steel.

The United States, world's largest steel maker, with a current capacity of 105,000,000 tons a year, built several new producing units. The peaceful fields of Bucks County, Pennsylvania, blossomed with the beginnings of the immense new Fairless works of the United States Steel Corporation, a $400,000,000 project. The National Steel Corporation tapped a new 550-ton open hearth at Weirton, West Virginia.

Railroad Pushed to Labrador Ore Fields

In Great Britain the largest steel mill in Europe, a $168,000,000 mill in Wales, started production. France opened its first continuous hot-strip rolling mill at Denain. Russia claimed 1951 steel capacity expansion, bringing total output to some 35,000,000 tons a year.

The immense appetite for steel pushed work on a railroad into Labrador's vast untouched ore fields. The Orinoco River is being dredged to allow ocean-going ships to approach Cerro Bolívar, Venezuela's mountain of high-grade iron ore.

Steel machines need oil. Two new refineries, one of them the largest in Europe, opened in England, and a plant to process lubricating oils and high-octane gasoline from Middle East oil began operation in Trieste.

Electric power burgeoned in 1951. After 18 years of planning and construction, the 18th and last generator started operation at Grand Coulee Dam, giving the Washington State power plant a world's-record capacity of 1,974,000 kilowatts. Generators started on the Colorado River's Davis Dam, on the Arizona-Nevada border. Canada began power production at three Ontario sites. Three Philippine Republic hydroelectric plants went to work. Electric power stations opened in Portugal, Sicily, Pakistan, and Austria, and a steam plant started generating power in Puerto Rico.

France Opened New Port on Ivory Coast

In California, the immense Shasta Dam started water on a 500-mile trip to Central Valley (illustration, next page). Also completed were Horsetooth Dam in Colorado, Cedar Bluff Dam at Ellis, Kansas, and Shadehill Dam on the Grand River near Lemmon, South Dakota.

France opened a new man-made port at Abidjan, capital of the Ivory Coast in Africa. East Pakistan's Port Jinnah began its task of relieving crowded Chittagong port. New multimillion-dollar piers went into service at Philadelphia and Houston. Baltimore's new $5,000,000 ore unloader started handling iron ore from Venezuela and Liberia.

Soviet Russia and communist China reported vast new rail construction. Belgium completed the first link connecting lines into Brussels from north and south, providing rail service through the capital. Peru finished the line from lofty Lake Titicaca to Matarani on the Pacific. Operations began on a 300-mile Bolivian stretch of railroad from Santos, Brazil, on

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they eat silage and grain shipped in from farming areas much farther away. The cows chew the cud and produce milk; they hardly move from one spot during their milking life.

A century or more ago farmers brought milk to city homes in cans hanging from yokes on their shoulders. Today 190,000 motor trucks help in the distribution of milk in the United States. Railroad cars also deliver a big portion of the nation's daily milk bath.

NOTE: For additional information on the dairy industry, see "Deep in the Heart of 'Swissconsin'," in the *National Geographic Magazine* for June, 1947; and "Revolution in Eating" and "Flavor and Savor of American Foods" (25 color photographs), March, 1942 (out of print; refer to your library).

See also, in the GEOGRAPHIC SCHOOL BULLETINS, May 10, 1948, "Wisconsin Celebrates '48 Centennial."

CY LATOUR AND SON

A HERD OF GUERNSEYS AMBLES BARNWARD IN CALIFORNIA'S SAN FERNANDO VALLEY

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the Atlantic, to Arica, Chile, on the Pacific. In Saudi Arabia, trains began the 350-mile desert run from the port of Damon to inland Riyadh, the capital. The Alaska railroad cut close to a glacier to eliminate its famous full-circle loop 50 miles north of Seward.

Brazil completed the final airstrip of a string of 12 between Manaus on the Amazon and Rio de Janeiro on the Atlantic coast, a route designed to cut Miami-Rio flying time. The world's highest commercial airport, at La Paz, Bolivia, completed one of the longest runways ever built.

Bridges finished included a Delaware River span near Wilmington, Penrose bridge over the Schuylkill in Philadelphia, a new viaduct to channel traffic from the Holland Tunnel into New Jersey, a viaduct connecting Long Island in Boston harbor with the mainland, and a causeway (the fifth) from Miami to Miami Beach.

Outstanding in highway construction was completion of most of the New Jersey turnpike, a 118-mile high-speed expressway from New York City to the new Delaware River bridge. Pennsylvania extended its turnpike from Irwin, just east of Pittsburgh, to the Ohio border.

NOTE: Sites of 1951 enginering projects may be located on the Society's World Map. See also, "More Water for California's Great Central Valley," in the *National Geographic Magazine* for November, 1946; "U. S. Roads in War and Peace," December, 1941; "The Columbia Turns on the Power," June, 1941; and "Bridges, from Grapevines to Steel," March, 1936.

J. BAYLOR ROBERTS

CALIFORNIA'S CENTRAL VALLEY PROJECT PUMPS WATER FROM THE SACRAMENTO TO THE SAN JOAQUIN

The Sacramento River winds at the right; the San Joaquin in the far distance. This is their delta, halfway between Sacramento and San Francisco. Shasta Dam, 200 miles north, impounds Sacramento water, releases it in a steady stream to the pumps in this area. A canal takes it to San Joaquin's headwaters where it irrigates thousands of rich, but naturally dry, acres.